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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,468	06/07/2001	Takaaki Hirai	107176-00006	6366

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EXAMINER

CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/856,468	HIRAI ET AL.	
	Examiner	Art Unit	
	Victor S Chang	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendments and remarks filed on 7/2/2003. Applicant's amendments to the Specification, claims 1, 3-10, 12, 14-18 and 20, and cancellation of claim 2 have all been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Rejections not maintained are withdrawn.

Specification

4. The amendment filed 7/2/2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Applicant's amendment to the paragraph beginning at page 24, line 12, recites in part "when measured at 270°C, using an extrusion rate of 30 mm/min (shear rate: 364.8 sec⁻¹) and a haul off rate of 100 mm/min" is clearly "new matter". The Examiner notes that the "melt tension" does not appear to be a standardized test method (such as a ASTM method) and the original Specification lacks an express disclosure as to the testing conditions of an apparent "in-house" test method.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

5. Claim 1 is objected to because of the following informalities:

The Examiner strongly suggests to modify the beginning of claim 1 so as to clarify the claimed invention:

"Pre-expanded foam particles formed from a [A] moldable crystalline aromatic polyester resin [pre-expanded foam particles], said particles having a bulk density ..."

Appropriate correction is desirable.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 6, 7 and 16-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

More particularly, in claims 6 and 16, line 3 of each claim, the newly amended recitation "when measured at 270°C" appears to be "new matter", as set forth above.

Response to Amendment

8. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 08-174590 (English Abstract and computer translation) either taken individually, or in view of Park (US 5475037), substantially for the reasons set forth in section 4 of Paper No. 9, together with the following additional observations.

With respect to Applicants' Response arguing that "there is no reason that a person of ordinary skill in the art would determine that a pre-expanded foam particle should have the presently claimed bulk density based on JP '590" (Remarks, page 8, top paragraph), the Examiner reiterates (see page 4 of Paper No. 9) that it is conventional to prepare pre-expanded particles with a low bulk density in the range of 0.01 to 1.0 g/cm³, as evidenced by Example 4 of Park, which shows a pre-puff having a density of 27.55 kg/m³, i.e., 0.028 g/cm³ (column 7, line 66). In other words, it is believed that a suitable density of pre-expanded foam particles is either inherently disclosed, or an obvious optimization to one skilled in the art, motivated by the desire to be able to form a molded article with a desired bulk density.

With respect to Applicants' argument that "JP '590 fails to teach these compounds merely form a minor part of the resin ... A person of ordinary skill in the art would, at best, be motivated to form a resin having a much higher concentration than 0.5 to 10% of the isophthalic acid or 1,4-cyclohexanedimethanol from reviewing JP '590" (Remarks, page 8, second paragraph), the Examiner reiterates (see page 3 of Paper No. 9) that JP '590 expressly teaches that a suitable low crystallinity is essential to the pre-expanded foam particles, and it is well known that the crystallinity of PET can

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be reduced by copolymerizing terephthalic acid with cyclohexanedimethanol and/or isophthalic acid. This is evidenced by Park's teaching that the foamable amorphous copolyester resin can be obtained by copolymerizing isophthalic acid and cyclohexanedimethanol, or mixtures thereof, in an amount of from about 15 wt% to about 50 wt% of the total of terephthalic acid, isophthalic acid, and cyclohexanedimethanol (column 12, lines 25-56). In other words, Park clearly teaches that by incorporating greater than 15 wt% of the co-monomers, an amorphous polyester, rather than a crystalline polyester is obtained. As such, it is believed that a suitable small amount of the aforementioned co-monomers is either inherently disclosed by JP '590, or an obvious optimization to one skilled in the art to incorporate a small amount of co-monomers (e.g., less than 15%, as taught by Park), motivated by the desire to obtain a suitable low crystallinity (i.e., not fully amorphous) in the pre-expanded foam particles, as taught by JP '590, Applicants' argument to the contrary notwithstanding.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 703-605-4296. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 703-308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

VSC

DANIEL ZIRKER
PRIMARY EXAMINER
GROUP 1300
1700

Daniel Zinker